

**Notice of Allowability**

Application No.

10/053,166

Examiner

Rip A. Lee

Applicant(s)

FUCHS, ERICH

Art Unit

1713

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to September 9, 2005.
2. ☒ The allowed claim(s) is/are 1-8 and 11.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

***Allowable Subject Matter***

The following is an examiner's statement of reasons for allowance: Claims 1-8 and 11 are allowed over the closest references cited below.

The present invention is drawn to a rubber mixture comprising (a) at least one hydrogenated carboxylated nitrile rubber, (b) from 10 to 120 phr of one or more metal acrylate salts, (c) from 5-80 phr of one or more liquid acrylates, optionally applied onto a support (d) from 0.01 to 8 phr of one or more silanes, and (e) optionally, further additives/filler.

The invention is also encompasses to a vulcanizable rubber mixture and a molding comprising said rubber mixture.

Fuchs (U.S. 6,538,071) discloses a rubber mixture comprising (a) at least one hydrogenated nitrile rubber, (b) from 10 to 120 phr of one or more metal acrylate salts, (c) from 5-80 phr of one or more liquid acrylates, optionally applied onto a support (d) from 0.01 to 8 phr of one or more silanes, and (e) optionally, further additives/filler. The reference does not teach use of hydrogenated carboxylated nitrile rubber.

Hert *et al.* (U.S. 5,985,392) teaches a rubber composition comprising carboxylated nitrile rubber, zinc acrylate, silica and peroxide to effect crosslinking. The reference does not disclose use of hydrogenated carboxylated nitrile rubber or use of liquid acrylate.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

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November 8, 2005



DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

**AMENDMENT TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing Of Claims:**

Claim 1. (Currently Amended): A rubber mixture comprising

- at least one carboxylated hydrogenated nitrile rubbers and optionally or more a carboxylated nitrile rubbers rubber
- from 10 to 120 phr of one or more metal salts of an acrylate
- from 5 to 80 phr of one or more liquid acrylates optionally applied onto a support,
- from 0.01 to 8 phr of one or more silanes, and
- optionally further additives and/or fillers.

Claim 2. (Currently Amended): A rubber mixture according to Claim 1, wherein said ~~carboxylated nitrile rubber(s)~~ is selected from the group consisting of hydrogenated NBR, carboxylated NBR, partially hydrogenated carboxylated NBR and completely hydrogenated carboxylated NBR ~~or mixtures of two or more of the members of the group.~~

Claim 3. (Original): A rubber mixture according to Claim 1, wherein the metal salt of the acrylate is a Zn diacrylate or a Zn dimethacrylate or a mixture thereof.

Claim 4. (Original): A rubber mixture according to Claim 1, wherein the liquid acrylate is butanediol dimethacrylate or trimethylolpropane trimethacrylate or a mixture thereof.

Claim 5. (Original): A rubber mixture according to Claim 1, wherein vinylsilane is used as the silane.

Claim 6. (Original): A rubber mixture according to Claim 1, wherein said mixture further more contains a silicate filler, carbon black, zinc oxide, magnesium oxide or a mixture of two or more of these components.

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Claim 7. (Original): A rubber mixture according to Claim 1, wherein the mixture contains vulcanization retarders and/or vulcanization accelerators.

Claim 8. (Currently Amended): A vulcanizable rubber mixture comprising a rubber mixture, which comprises

- a) at least one carboxylated hydrogenated nitrile rubbers and optionally or more a carboxylated nitrile rubbersrubber
- b) from 10 to 120 phr of one or more metal salts of an acrylate
- c) from 5 to 80 phr of one or more liquid acrylates optionally applied onto a support,
- d) from 0.01 to 8 phr of one or more silanes, and
- e) optionally further additives and/or fillers.

Claims 9 and 10. (Cancelled)

Claim 11. (Currently Amended): A molding comprising a rubber mixture, which comprises

- a) at least one carboxylated hydrogenated nitrile rubbers and optionally or more a carboxylated nitrile rubbersrubber
- b) from 10 to 120 phr of one or more metal salts of an acrylate
- c) from 5 to 80 phr of one or more liquid acrylates optionally applied onto a support,
- d) from 0.01 to 8 phr of one or more silanes, and
- e) optionally further additives and/or fillers.

Claim 12. (Cancelled)